Piffard (H. G.)

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ON

CERTAIN POINTS

RELATING TO THE

NATURE AND TREATMENT OF LUPUS.

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[*Extracted from the Transactions of the Medical Society of the State of New York*, 1877.]

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Nature and Treatment of Lupus.

For the purposes of this paper, we will find it convenient to use the term Lupus as a general designation for several morbid conditions that present certain features in common. The name, however, is one not altogether desirable, as its signification is not well defined, different authors including under it several affections which differ in aspect, in histological characteristics, in course, and in prognosis. Rejecting in advance all affections of a syphilitic nature, we confine the term to certain cutaneous lesions that present a few important common peculiarities. To these affections the Germans have given the names of *Lupus Erythematosus* and *Lupus Vulgaris*, and the French the collective title of *Scrofulides*. The latter designation is the one that we prefer, believing, in common with most writers, that these cutaneous lesions are usually, if not always, dependent upon the somewhat undefined and vague condition of ill-nutrition to which the name scrofula or struma is applied. As the object of the present paper is practical rather than theoretical, we will not attempt to discuss the questions of etiology and nomenclature that under other circumstances might prove interesting.

The principal common features of the different varieties of lupus are: absence of pain or itching, extreme chronicity, ultimate destruction of all the tissues invaded, and difficulty of cure.

As a rule, the most extensive lesions cause little inconvenience to the patients, except by the disfigurements that they produce.

Their chronicity is proverbial. An erysipelas, or an eczema may cover in twenty-four hours an area that it may take as many years for lupus to involve. This is well illustrated by the photograph of F. W., in whom the disease commenced in 1854 (twenty-three years ago), and has been constantly present and slowly

advancing up to the date when the photograph was taken (March, 1877). As a rule, however, the progress of the disease is more rapid, but never to the degree exhibited by simple inflammation, by syphilis, or by true malignant processes.

The ordinary clinical features of lupus are familiar to most, are well described in many treatises, and have recently been considered with care, and, I believe, with substantial accuracy, by myself. Lengthened detail concerning them would therefore be out of place at the present time, and we will pass to the consideration of certain histological points.

If we remove portions of lupous tissue, and harden, slice, and stain them with carmine, we shall find, on microscopical examination of the stained slices, very notable deviations from the appearances presented by the normal tissues. The prevailing feature in all cases is an infiltration of small round cells, resembling the colorless corpuscles of the blood. This infiltration may be simply diffuse, or diffuse with the addition of certain other cells of peculiar appearance. These are many times larger than the small round cells, are poly-nucleated, and on account of their size have received the name of *giant*-cells. Lastly, the small round cells, instead of being diffusely infiltrated, are collected into certain little clumps or heaps. These three principal histological types found in lupus correspond to three pretty distinctly marked clinical varieties, which differ widely in their appearance, course, and prognosis.

In comparing the microscopical appearances with the cases from which the specimens are derived, we find: First, that the diffuse infiltration corresponds to the superficial forms of lupus, in which ulceration never occurs; second, that the infiltration associated with giant-cells occurs in the deeper forms with ulceration and destruction of the entire thickness of the skin; and, thirdly, that the "cell-heaps" are met with in cases that also invade the deeper tissues beneath the skin. The diffuse, small, round-cell infiltration met with in superficial lupus cannot be distinguished microscopically from small-cell infiltrations in other affections, for we may find identical appearances in syphilis, and even in simple inflammation. In the deeper cutaneous lupus, characterized by the diffuse infiltration *plus* giant-cells, we again find nothing peculiar, as giant-cells are met with in many scrofu-

lous hyperplasiæ, in syphilis,* and even in normal infantile bone-marrow. The cell-heaps, however, that we find in the deeply ulcerating form are peculiar to lupus, not having been found elsewhere, so far as I am aware. From this we see that there is but a single histological appearance that can with propriety be regarded as peculiar, and this is met with in but a small minority of cases.

To what then does lupus owe its destructive features? It is not to the size or shape of its cells or the manner of their distribution, for in these respects we cannot, as a rule, discover anything not found in other diseases. We must turn, then, from the microscope, and we must look beyond the mere morphology of the cells, in the endeavor to penetrate their chemical and vital peculiarities.

When we examine the subject from this point of view, and compare lupus with certain other cutaneous affections, we immediately detect important contrasts. A simple inflammatory infiltration may undergo resolution, and disappear in a few days, and leave behind no mark or sign of its previous presence. A syphilitic infiltration may also resolve and disappear in a few weeks, and leave little more than a temporary stain to mark its site. A lupus infiltration in like manner undergoes resolution, but it is only after long months or years; and when this is finally accomplished, a scar corresponding to the extent of the lesion is the inevitable result. We see, then, that one important peculiarity of lupus is the extreme viability of its cells.

Another peculiarity is its gradual extension and involvement of new regions, by an apparently infective process, similar to, but less in degree than that manifested by cancer. In other words, lupus is an affection that presents a certain degree of malignity, varying in different cases, and always less marked than in true cancer. This infective quality is evidenced by the fact that, if a patch of lupus be incompletely destroyed, the disease will most certainly return.

The infiltration in lupus, after it has existed for an indefinite period, ultimately resolves, probably by fatty degeneration and absorption of its cells. This, however, only occurs after the lapse

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* Colomiatti, Giornal. d. Mal. Ven. e dela Pelle, An. x., 1875, p. 331. Browicz, Centralb. f. die Med. Wisch. No. 19, 1877.

of years, and while resolution is in progress at points first attacked, there is a gradual progression outward, involving the adjacent regions.

A consideration of these two points, namely, the extreme viability of the cells and their infective quality, gives us a clue to appropriate treatment. The indication is clearly to remove the infiltration as soon as possible, and to remove it thoroughly; to destroy, not nine-tenths or ninety-nine hundredths of the lupous cells, but *all* of them. How this may best be done will now be considered.

Treatment. — Unfortunately we possess no medical agents capable of exerting a specific or elective action on the lupous process. There is no question, however, but that mercury, iodine, iodide of potassium, and cod-liver oil exert a beneficial influence. They are both notable resolvents and powerful anti-strumics. Phosphorus is another energetic agent capable of influencing the disease. It is, however, a two-edged sword, and one that is to be handled with great circumspection. The principal physiological, or rather pathogenetic, action of phosphorus is the production of fatty degeneration. As morbid growths possess less vitality than normal tissues, it is possible that the phosphorus induces fatty degeneration of the lupus cells, thus favoring absorption, when given in doses that are insufficient to produce a like result in healthy organs. If this explanation is correct, and it is the one which seems to us most plausible, it is manifestly proper to avail ourselves of the advantages that it presents, at the same time bearing in mind the possibility that, while we are curing the lupus, we may also be killing the patient. We have seen brilliant cures (?) of cutaneous affections accomplished with large doses of mercury, iodide of potassium, and arsenic, but at the expense of the future health of the patient, and there are indications that phosphorus is at the present time being used to excess. While, then, we acknowledge the power of phosphorus, we can not unreservedly recommend its use.

The above mentioned comprise the internal remedies most useful in lupus, but we cannot depend upon them alone, as they will, if unaided, rarely, if ever, effect a cure. Our main reliance is upon external treatment.

The various methods at present in vogue fall into three categories. The effort is made either to produce absorption of the lupous cells, to remove them mechanically, or to destroy them *in situ*. The first of these methods is the oldest, and is the one that has been most frequently practised. Absorption of the infiltration, when limited, may sometimes be procured by strong alkaline applications, *e. g.*, Sapo viridis. liq. potassæ, or stronger solutions of caustic potash, or by acids, such as the glacial acetic and mono-chlor-acetic acids. The biniodide of mercury in ointment is also employed for the same purpose. As the details for the employment of these agents are given in the text-books, their special consideration at this time is unnecessary. This method, whatever agent is employed, is tedious, painful, and uncertain.

The mechanical removal of the cells is a plan that has recently come in vogue. It is effected by means of a small sharp-edged spoon [*spoon exhibited,*] with which the infiltration is scraped out. The morbid tissue yields to the scraper more readily than the healthy, and a very considerable portion of the infiltration can be thus removed mechanically. If all of it—that is, every cell—could be thus scraped out, this method would be a simple and a good one. Unfortunately, however, this can rarely be accomplished, and in the great majority of instances relapse occurs. The result is somewhat better if, after the scraping, pure chloride of zinc is applied to the denuded surface, but, even after this, relapse is not infrequent. The only mechanical means that can be relied on is complete excision, and, if any doubt exists as to the thoroughness of the operation, the chloride of zinc should also be applied to the wound. Excision, when practicable, is certainly the most reliable and in every way best method of treatment. In the majority of cases, however, it is not practicable, and consequently other means must be employed.

The destruction of the cells *in situ* may be accomplished in several ways. First, by boring into the diseased tissues with the solid nitrate of silver in pencil form or fused upon a probe; second, by arsenical pastes; third, by the actual cautery. The first is well adapted to lesions of limited extent, and is often successful. The arsenical treatment is likewise efficient, and if properly performed is perfectly safe, but is exceedingly painful. It is only adapted to small patches, or, if the patch is large, to

successive portions. The arsenical and nitrate of silver methods have been often described, and are, or should be, well known. In the actual cautery we also possess an efficient agent. If the lesion is very superficial a thorough cauterization at a *white* heat will be sufficient to effect a cure, and will leave a very good scar. If the lesion is somewhat deeper, a less degree of heat, say a red heat, will penetrate more deeply, and destroy the lesion, but the ulcer left by the fall of the slough will be slower in healing, and the cicatrix will be more retractile—a very important consideration when the disease is situated upon the face. That this method will not always succeed is evident from the case of F. W., to whose face three applications of the white-hot cautery were made during a period of two months. A portion of the lesion has been destroyed, but the lower part of it still exists. This is well shown in the photographs.

Of all the methods mentioned, it might be expected that we would find at least one that could be generally relied upon. This, however, is not the case; and if we remember that a permanent cure can only be expected by getting rid of every lupous cell, and that we must accomplish this without inflicting too great injury upon the adjacent healthy parts, we can readily understand the difficulties to be encountered.

A somewhat varied experience has finally led me to a method, or rather combination of methods, that can, I think, be relied upon in almost every case. The plan that I would recommend is to *thoroughly scrape out as much of the lesion as possible, and then to cauterize the floor and edges of the wound with the actual cautery at a white heat.*

The following cases treated by mechanical measures illustrate some of the points alluded to in this paper:

I.—J. S.; lupus of eight years' standing. Principal lesion in region of left eye; several other foci of disease. In the early stage of the disease caustics were applied, with relapse and aggravation; in an advanced stage excision and cauterization with pure carbolic acid,—relapse; two tubercles on chin excised (histological character,—cell-heaps), without relapse; one tubercle on forehead scraped and solar cautery, without relapse. Ultimate termination, death by phthisis pulmonalis. (Illustrated by five photographs.)

II.—McG.; lupus on the side of the nose; excised; no relapse. (Illustrated by diagram.)

III.—O'C.; lupus of nose; excision (histological character—diffuse infiltration, with giant-cells); relapse; relapse treated with pure chloride of zinc; no relapse at end of two months. (Two diagrams.)

IV.—J. A.; lupus of temple; excision (histological character—cell-heaps); no relapse at end of eighteen months. (Illustrated by diagram.)

V.—R. L.; lupus of face, fifteen years' duration; three foci of disease; one excised (cell-heaps); no relapse; the other two scraped, and chloride of zinc applied; in both instances relapse. Later, one of these was scraped, and the actual cautery applied without relapse; the other was excised, and the actual cautery applied without relapse. A fourth lesion, which had appeared subsequent to the first operations, was scraped, and the nitrate of zinc applied. This relapsed, and the ultimate termination of the case was death by phthisis. (Illustrated by three diagrams.)

VI.—Lupus of the scalp; scraped, followed by relapse; later, scraped and actual cautery; no relapse.

VII.—E. S.; lupus on cheek; scraped and chloride of zinc; relapse; again scraped and actual cautery; no relapse. (Two diagrams.)

VIII.—L. W.; lupus of penis; four foci; one excised (histological character—diffuse infiltration); no relapse; three cauterized with actual cautery. In two no relapse; in one relapse; recauterized, no relapse.

IX.—F. W.; lupus of twenty-three years' standing; three applications of white-hot cautery; partly cured; subsequently scraping and actual cautery; still under treatment. (Two photographs.)

X.—T. G.; lupus of nose and upper lip, three years' standing; scraped and cauterized on sections; no relapse. (Two photographs.)

The comparative efficiency of the various methods of mechanical treatment employed in the foregoing cases may be summarized as follows:

	Successful.	Unsuccessful.
Scraping and chloride of zinc	0	4
Chloride of zinc (very small and superficial lesion)	1	0
Scraping and nitrate of zinc	0	1
Actual cautery	4	2
Excision	6	2
Excision and actual cautery	1	0
Scraping and actual cautery	4	0

A number of cases (of which I have not kept notes) treated by some of the above methods, and several cases in which the ultimate result of treatment is unknown, are not referred to. It will be seen, however, that success is in direct proportion to the thoroughness of the operation, and that our effort should be to remove every lupous cell. This is to be effected by excision when practicable. In other cases, scraping, followed by the actual cautery at a *white* heat, gives us the best assurance of success.